

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P559143

Luminaire Tested: FSR-12-1-LD4-2HI-40-UNV-93-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559143  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-1-LD4-2HI-40-UNV-93-87-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

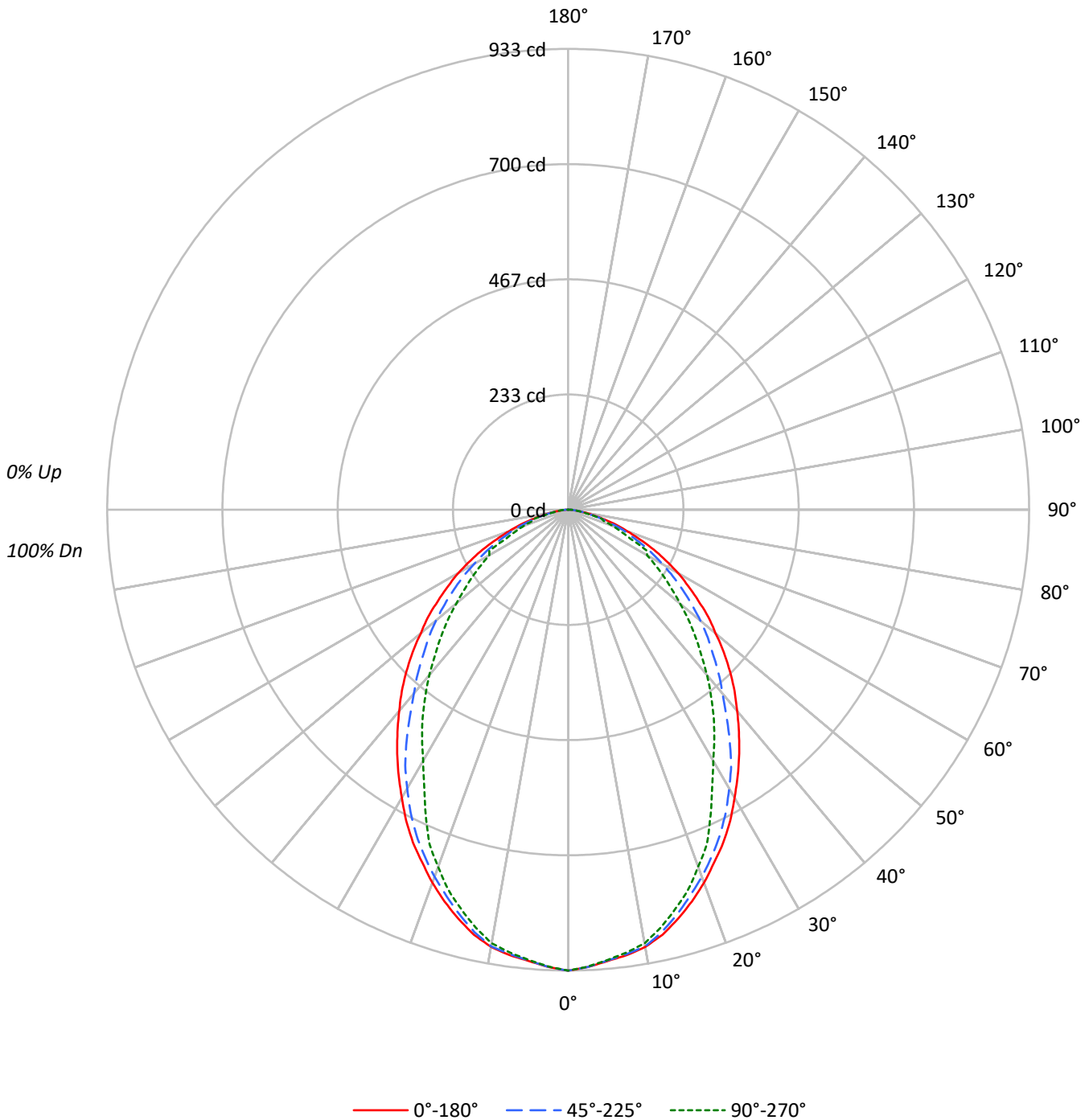
Lumens per Lamp: N/A  
Luminaire Lumens: 1832.0 lumens  
Efficiency: N/A  
Efficacy: 84.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10045	10045	10045
5°	9908	9896	9886
10°	9823	9811	9740
15°	9558	9461	9329
20°	9206	9058	8811
25°	8828	8636	8098
30°	8367	8099	7295
35°	7925	7485	6748
40°	7474	6822	6139
45°	7045	6307	5550
50°	6522	5853	4950
55°	6033	5305	4434
60°	5528	4738	3972
65°	4865	4149	3517
70°	4006	3632	2987
75°	3186	2782	2915
80°	2139	2008	1872
85°	1334	1593	1865

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7045 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.9	4.7
10°-20°	238.4	13.0
20°-30°	330.1	18.0
30°-40°	351.9	19.2
40°-50°	321.1	17.5
50°-60°	251.5	13.7
60°-70°	163.9	8.9
70°-80°	72.6	4.0
80°-90°	15.6	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	655.3	35.8
0°-40°	1007.3	55.0
0°-60°	1579.9	86.2
0°-90°	1832.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1832.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	933	933	933	933	933	
5°	917	916	916	915	915	87
15°	858	858	849	840	837	241
25°	743	739	727	701	682	341
35°	603	599	570	526	514	377
45°	463	453	414	380	365	357
55°	322	312	283	249	236	288
65°	191	180	163	166	138	188
75°	77	71	67	64	70	82
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	933.2	933.2	933.2	933.2	933.2
2.5°	926.7	926.7	926.7	925.6	925.6
5°	917.0	915.9	915.9	914.9	914.9
7.5°	909.5	908.4	907.3	906.2	904.1
10°	898.7	898.7	897.6	892.2	891.1
12.5°	881.4	880.3	876.0	868.5	866.3
15°	857.7	857.7	849.0	840.4	837.2
17.5°	831.8	830.7	819.9	811.3	807.0
20°	803.7	801.6	790.8	776.8	769.2
22.5°	772.4	772.4	759.5	741.2	733.6
25°	743.3	739.0	727.1	701.2	681.8
27.5°	709.9	703.4	690.5	653.8	631.1
30°	673.2	670.0	651.6	604.2	586.9
32.5°	638.7	633.3	613.9	564.2	550.2
35°	603.1	598.8	569.6	526.5	513.5
37.5°	567.5	562.1	525.4	490.9	474.7
40°	531.9	525.4	485.5	454.2	436.9
42.5°	498.4	489.8	451.0	417.5	398.1
45°	462.8	453.1	414.3	379.8	364.6
47.5°	427.2	418.6	383.0	347.4	330.1
50°	389.5	381.9	349.5	313.9	295.6
52.5°	358.2	346.3	315.0	279.4	264.3
55°	321.5	311.8	282.7	249.2	236.3
57.5°	288.1	278.3	251.4	220.1	209.3
60°	256.8	242.7	220.1	193.1	184.5
62.5°	222.2	211.5	192.0	169.4	180.2
65°	191.0	180.2	162.9	166.1	138.1
67.5°	156.4	151.0	135.9	120.8	116.5
70°	127.3	120.8	115.4	99.3	94.9
72.5°	101.4	94.9	87.4	78.8	75.5
75°	76.6	71.2	66.9	63.7	70.1
77.5°	52.9	50.7	47.5	44.2	43.2
80°	34.5	33.4	32.4	31.3	30.2
82.5°	20.5	20.5	20.5	20.5	20.5
85°	10.8	11.9	12.9	14.0	15.1
87.5°	6.5	6.5	7.6	8.6	9.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)